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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/007,227	11/07/2001	Krishnan Shrinivasan	NOVEP012	2684

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EXAMINER
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MOORE, KARLA A

ART UNIT	PAPER NUMBER
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1763

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/007,227

Applicant(s)

SHRINIVASAN ET AL.

Examiner

Karla Moore

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 12-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No: \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>0802</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Election/Restrictions***

1. Claims 12-21 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention (Group II), there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 21 April 2005.

2. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-2, 4, 6 and 8-10 are rejected under 35 U.S.C. 102(e) as being anticipated by WIPO Pub. WO 01/55628 A1 to Layman et al.

5. Layman et al. disclose a processing chamber (30) for a substrate, the chamber configured to operate at a positive pressure (page 3, rows 16-18), comprising: a load port slot (16), the load port slot providing access for the substrate into and out of the chamber; a chamber door (14) the chamber door positioned inside the chamber, the chamber door configured to seal against an internal surface (20) of the chamber thereby blocking access through the load port slot, wherein an internal pressure of the chamber assists in sealing the chamber door against the internal surface of the chamber (page 3, rows 16-18); and

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a door actuating mechanism (32), the door actuating mechanism configured to move the door along a door path, the door path positioned at an angle to a path to be traversed by the substrate.

6. With respect to claim 2, the chamber door includes a first actuator (pressurization) for closing the door and a second actuator (depressurization) for opening the door.

7. With respect to claim 4, the chamber door forms a seal against the internal surface of the chamber by compressing an o-ring (24).

8. With respect to claim 6, Layman et al. also disclose a chamber for processing a semiconductor substrate, the chamber configured to operate while pressurized, comprising: a port (16), the port providing access for the semiconductor substrate into and out of the chamber; a moveable door (14), the door configured to utilize a pressure differential between an internal pressure of the chamber and an external pressure outside the chamber to seal the port (page 3, rows 16-18), wherein the door forms a seal with an internal surface (20) of the chamber enclosing the port; and a control mechanism, the control mechanism (valves, 46 and 48) configured to transition the moveable door between an open position and a sealed position, the transition between the open position and the sealed position occurring at an angle to the axis of a path to be transversed by the semiconductor substrate.

9. With respect to claim 8, the moveable door is positioned inside the chamber. See Figure 2.

10. With respect to claim 9, the chamber further comprises: at least one rod (39), the at least one rod having a first and second end, the first end attached to the chamber door, the second end attached to a bar (38), the bar in communication with at least one actuator (pressure or lack thereof).

11. With respect to claim 10, wherein the at least one actuator includes an actuator for closing the door (pressurization) and an actuator for opening the door (depressurization).

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

14. Claims 3, 5, 7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Layman et al. as applied to claim 1-2, 4, 6 and 8-10 above and further in view of U.S. Patent No. 4,426,358 to Johansson.

15. Layman et al. disclose the invention substantially as claimed and as described above.

16. However, Layman et al. fail to teach a size of the second actuator prevents the door from opening when the internal pressure of the chamber is at or above a defined pressure; the moveable door includes one of a mechanical safety, an electrical safety and a software safety; a third actuator, the third actuator configured to prevent one of the first and second actuators from moving the chamber door; or an interlock provides assurance that the chamber door is closed prior to pressurizing the chamber.

17. Johansson discloses the use of a fail-safe device for a pressure vessel including a blocking device for a lid thereof, which blocking device is locked by a means of a first locking device sensing the internal pressure in the vessel, where this device is in turn provided with a second locking device which works independently by sensing pressure inside and the vessel and locks the first locking device in its locked position whenever pressure is dangerously high inside the vessel. The device is provided for the purpose of assuring safe closing of the lid that is both foolproof and failsafe (abstract).

18. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided a device for insuring closure of the chamber in Layman et al. in order to assure safe closing of the lid which is both foolproof and failsafe as taught by Johansson.

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**Conclusion**

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. USP 6,048,494 discloses means for sealing a pressurized chamber

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karla Moore whose telephone number is 571.272.1440. The examiner can normally be reached on Monday-Friday, 8:30am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571.272.1435. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Karla Moore  
Patent Examiner  
Art Unit 1763  
26 June 2005